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Our PUBLIC LANDS

BUREAU OF LAND MANAGEMENT

APRIL–MAY–JUNE 1955 • Volume 5, Number 2

OUR PUBLIC LANDS . . .

500 million acres of land that belong to us and to our neighbors and to all the people of the United States . . . public lands that are rich in natural resources . . . timber, rangeland, water, minerals, and land for every use . . . "active acres" that must be carefully and wisely managed for the welfare of the Nation . . .

As a forum for the exchange of ideas and information on development, utilization, and conservation of the resources public lands, this periodical contains no copyrighted material. If pictures or material are reprinted, a credit line should be given Our Public Lands *and the Bureau of Land Management.*

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COVER

On Saturday morning, August 14, 1909, at 11 o'clock, United States Surveyor William Boone Douglass became probably the first white man to see the natural wonder that adorns this issue's cover. Close behind him in a friendly race for discovery was Professor Cummings of the University of Utah. Immediately naming it "Barohoini" (Paiute for "Rainbow") Natural Bridge, Mr. Douglass credited its "discovery for civilization" to the General Land Office. He spent the next several days photographing it and making the necessary surveys to segregate it as Rainbow Bridge National Monument in ex southern Utah. Read this interesting and authentic story in his own words on 8 and 9. The cover photo is one of the views made by Mr. Douglass nearly 46 year

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BLM GOES TO A CONSERVATION CAMPOREE

by **BASIL A. FLEMING, Jr.,** ***District Executive,*** **Marin Council, Boy Scouts of America, San Rafael, Calif.**

ON NOVEMBER 6 and 7, 1954, our Council held a very successful conservation camporee at Tamarancho, near San Rafael, Calif.

The success of this event was the result of fine cooperation and a lot of hard work by men from the Audubon Society, State and Federal agencies.

Special thanks go to C. K. Caron, Acting State Supervisor, and George D. Burma, Range Conservationist, of the Bureau of Land Management for a terrific job.

Our camporee for conservation began on a Saturday at 9:30 a. m. with a leaders' meeting at Totem area, the headquarters for Tamarancho.

It was explained to the scout masters that this s to be a "County Fair" type activity. Six ges were set up, and the troops likewise were divided into six conservation groups with a designated explorer as guide and first aid man.

The groups were then shown their respective places in the rotation plan, told about the schedules and given the location of our emergency station for first aid.

Just before the beginning of activities, an opening ceremony was held at the main flagpole, then the groups moved in to the actual project areas and rotated to the next station each hour and fifteen minutes. The six project stations were:

1. Forestry, with the planting of nearly 2,000 trees.
2. Fire prevention and suppression with demonstration and talk on tools and equipment.
3. Small Game and Birdlife with the Audubon man directing the building of a rustic pole fence, planting of shrubs and trees, digging a drinking pit—all as a protection for small game and quail.
4. Pond Management, with taking of fish by pole and seine, building gravel spawning beds and tule control.
5. Wildlife Management, cutting brush low for ground sprouting to provide browse for deer.
6. Soil Erosion and Range Management, grading edges of erosion ditches, planting grass and digging diversion ditches.

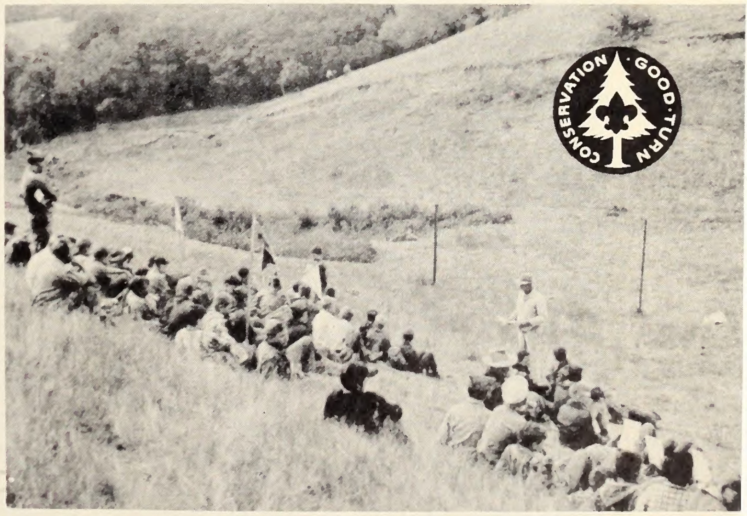
At Station No. 6 Hilton Taylor of the Soil Con- rvation Service briefly covered the history and results of soil erosion from Biblical times to the present and mentioned those areas in Marin County familiar to the scouts.

Mr. Burma, who was right in the middle of the soil and range project, explained the points covered in the outline on "Brush Control in Central California" copies of which were passed out to the scouts.

The BLM official explained that brush control is needed to open up areas and increase feed for livestock and big game, as well as to increase flow of water; that brush is controlled by bulldozers and disc plows, chemical spraying and control burning; that reseeding and range management complete the program; that seeding is done with grain drills, hand seeders and airplanes; that six types of grass and legumes most often used are rye grass, Harding grass, smilo, rose clover, alfalfa and Burnet; and that reburning 2 to 3 years after initial burning to kill brush seedlings and reduce

(Continued on page 14)

COOPERATION. **Boy Scouts at Tamarancho Conservation Camporee hear George D. Burma, BLM Range Conservationist, explain brush control.**



MY IMPRESSIONS OF PUBLIC LAND MANAGEMENT IN AMERICA

by **ALEJO MANALANG**, *Chief*, Public Lands Division, Philippine Bureau of Lands

AS I LANDED on American soil July 26, 1954, on a mission of observation and study of the United States systems of public land management, a recollection of heroic struggles for survival and for freedom streamed through my mind. I saw the Pilgrim Fathers who, driven by the force of tyranny and oppression, braved the dangers of the then unknown seas in search for a place where men could live and still be free. They found a haven in the New World which, by their sacrifices, became the "land of the brave and the free."

Looking back at the pages of history, I find that on one glorious and fateful day in the year 1776 the people of the now United States started to have a complete dominion over a comparatively small area on the Atlantic seaboard, known as the original 13 colonies. The irrepressible growth, politically and economically, in an independent existence of a vigorous people that had just won a costly freedom in the midst of enormous and rich natural resources, accelerated expansion of the country through a process of adjustment of boundaries and acquisition of territories from European countries that had laid claims in the New World.

The territories acquired during this period of expansion were:

Louisiana—Purchased from France in 1803 for $15,000,000.

Florida—Ceded by Spain in 1819 together with adjustments in the boundaries of Spanish and American holdings west of the Mississippi River.

Oregon—Title established in 1846 through a compromise settlement of the American and British possessions in the Northwest.

Mexican Territory—Ceded by Mexico in 1848.

Texas—Annexed in 1845.

Gadsden Territory—19 million acres in the Southwest, purchased in 1853 from Mexico.

Alaska—Purchased from Russia in 1867.

These territories together with the "wilderness" areas claimed by the 13 original States and relinquished in favor of the Federal Union, yielded an approximate area of 1 billion 800 million acres of public domain, or 2,800,000 square miles, and cost Uncle Sam $85,079,222 in direct payments.

This tremendous area of public domain which is rich in mineral deposits, timber and water power and in fertility of the soil, had been thrown into the lap of a people equipped with both the spirit and rare capacity for nation building. How the Government distributed these resources among its different agencies for administration, how effective were the systems used, and how they were exploited and developed may be gaged from the present-day industrial capacity of the country and her ability to survive and win the last two World Wars which were the most disastrous in history.

In the administration of these resources, the Congress of the United States has passed more than a thousand laws providing for their manag ment, disposal and utilization. The Governme however, sees to it that the distribution of fun tions over these resources is logical by creating agencies appropriate for their management. Thus permanent forest areas which have to be exploited and preserved for posterity, have been set aside for management by the Forest Service under the Department of Agriculture; lands occupied by or reserved for the Indians are administered by the Bureau of Indian Affairs under the Department of the Interior; lands that are necessary for the construction and maintenance of irrigation systems have been set aside for administration by the Bureau of Reclamation under the Department of the Interior; lands that have been set aside for parks and monuments are administered by the National Park Service; and other lands set aside or needed for the Armed Forces of the United States are administered by the defense agencies to which they pertain.

In order to help private initiative in the building of a network of railroads throughout the continental United States, the Government has patented 91,624,685 acres of public land to States for railroad purposes, or to the railroads themselves. All other lands of the public domain not set aside for administration by any agencies in the Federal Government, are administered or managed by the Bureau of Land Management.

The areas of public domain (including acquire nds) that still remained undisposed, as admin- red by the different agencies of the Federal vernment in 1950, may be seen in the following table:

Agency	*Area of Public Lands in Acres*
Bureau of Land Management	179, 093, 483
Forest Service	160, 582, 176
Bureau of Indian Affairs	57, 279, 729
National Park Service	13, 955, 638
Bureau of Reclamation	9, 927, 560
Soil Conservation Service	7, 415, 084
Fish and Wildlife Section	4, 128, 784
Farmers Home Administration	14, 189
War Department	19, 332, 451
Agricultural Research Administration	166, 083
Navy Department	2, 126, 004
Tennessee Valley Authority	458, 631
Other Agencies	1, 152, 361
Total	455, 632, 173

In general the policy followed before 1862 in administering the land resources of the United States was to realize revenue to help the Government carry out its functions. This policy had been born of an economic situation through which a young country in her process of development must pass. The tremendous influx of settlers who had come from different nations and races in Europe looking for opportunities of a better life in the New World, to a certain extent, helped bring about this situation.

However, a school of thought that the public domain belongs to the people spread among the tlers and public officials, and an agitation for free disposal of public lands pervaded the entire territory west of the Thirteen Original States. As far back as 1852, and even earlier, political parties which sought control of running the Government through free elections became the exponent of this theory. They incorporated in their platforms ideas such as this:

"That the public lands of the United States belong to the people, and should not be sold to individuals, nor granted to corporations, but should be held as a sacred trust for the benefit of the people, and should be granted in limited quantities, free of cost, to landless settlers." (The Public Domain p. 332.)

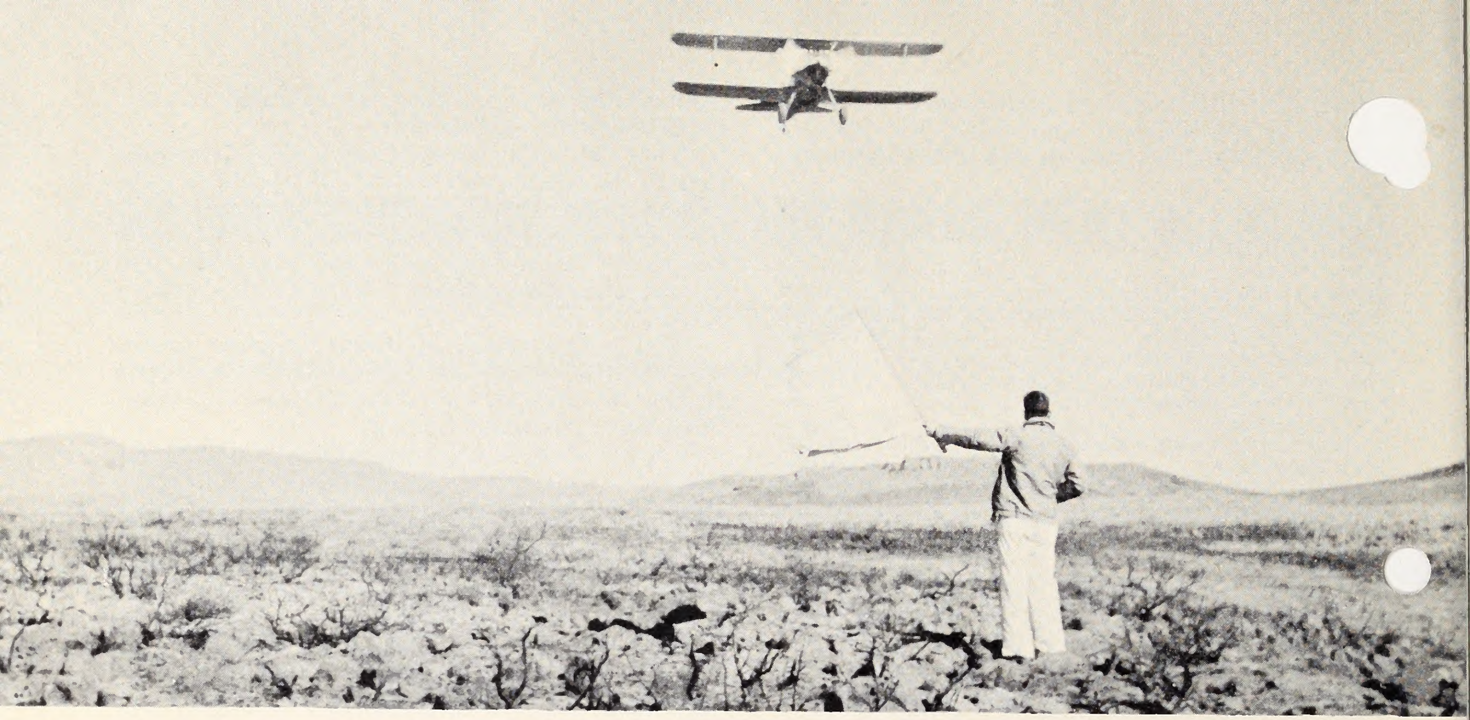
After a long period of study, Congress passed the free Homestead Law and the same was signed on May 20, 1862, by one of the greatest American Presidents, Abraham Lincoln.

In her process of development the United States reached a state when all its valuable and fertile public land had already been disposed of. As a protection of the interest of the Government and the welfare of the people in the time to come, the administrators of the affairs of the Government envisioned a plan of administering the remaining land resources of the country on the basis of conservation and management which culminated in passage of the Taylor Grazing Act on June 28, 1934. In carrying out the intent and purpose of this law, the President of the United States promulgated two Executive Orders in 1934 and 1935, withdrawing all public lands remaining undisposed of, for classification before their disposition. This virtually closed all available public lands to quick entry, and since the promulgation of the two executive orders hereinbefore mentioned, public lands have been disposed of only for their highest use as classified by the Bureau of Land Management regardless of the intention of the applicants or interested parties.

In accordance with the land laws passed by Con-

(Continued on page 12)

IN WYOMING. The author, Alejo Manalang, seated right, as he conferred in Cheyenne, Wyo., with Perry T. Williams, Wyoming Land Office Manager, George H. Woodhall, Colorado Land Office Manager, and Wyoming State Supervisor Raymond R. Best, all of BLM.



AERIAL SEEDING. **Airplane loaded with pelletized seed is guided by flagman over portion of 1,330-acre test seeding area near Shoshone, Idaho.** (Photos by the author.)

IDAHO'S ARID RANGE TESTS AERIAL SEEDING

by ROYALE K. PIERSON, ***Range Officer, BLM***

APPROPRIATIONS to the Bureau of Land Management for fiscal year 1955 included $100,000 of Soil and Moisture Conservation funds that were earmarked by the Congress for aerial range seeding.

The directive was permissive as to use of either pellet or unpelletized ("naked") seed, or both.

Although the aerial seeding of depleted or denuded land is a customary practice in the more humid areas of the West, it has not given consistent results in the more arid sections.

Aerial seeding of rangeland with pelletized seed was given extensive trials in 1948–49, not only by BLM but by the Bureau of Indian Affairs. The Forest Service established similar trial seedings, using pelletized seed, but on a more systematic experimental basis.

The results of the earlier pellet seeding trials have never been entirely conclusive nor convincing so far as members of Congress are concerned. Conflicting reports reaching Congressmen from unofficial sources have raised certain doubts as to the validity of the agency trials. Then, too, fiscal year 1950 funds earmarked for pellet seeding were not expended, mostly because of the lateness in the season when the appropriation bill was finally approved.

The latest recommendation of Congress reflects the foregoing as well as a conscientious desire to find methods of revegetating vast areas of the public lands at a more rapid rate than normally possible by customary range reseeding methods.

The Department of the Interior took special interest in the recommendation and instructed the Bureau to submit detailed plans on how the funds would be expended. Also the Bureau was requested to explain the method proposed for fully documenting the pellet seeding trials. Agreement was reached in the Bureau that about one-fourth of the ear-marked money would be expended pellet seeding trials and three-fourths in unpelleted aerial seeding trials.

In order to provide for technically qualified assistance in documenting the aerial seeding trials, a call for assistance was issued at the annual research review meeting with personnel of the Forest Service Experimental Station in Washington. Both the Forest Service and the Agricultural Research Service pledged facilities and personnel to the Bureau for evaluating the aerial pellet seeding trials.

A second interagency meeting of interested personnel was held in Washington to explain the proposed program, and an additional meeting was held in the field at Pocatello, Idaho, for the purpose of discussing criteria for selecting sites and evaluation methods. From these preliminary meetings, final arrangements were made to conduct the pellet seeding trials in Idaho at two locations representative of differences in rainfall. The Bureau of Indian Affairs received a similar recommendation from Congress and the two programs were properly coordinated.

The two pellet seeding trial sites in Idaho were located in the Wood River and Lost River grazing districts near Shoshone and Spencer, Idaho, respectively. The site near Shoshone was an accidental burn, about 20 miles north of town, and the site near Spencer was a prescribed burn, located about 4 miles west of town.

Some difficulty was encountered in obtaining pelletized seed, only a single bid being received from a California firm. It was hoped that a compressed earth pellet of the type tried in 1948 and 1949, would be available again for further tests. However, the firm which took over the earthen pellet business declined to bid.

A single lot of 10,000 pounds of crested wheat seed was set aside for the pellet seeding trials, and all plot seeding in connection therewith, in order to eliminate any variables which might arise due to differences in seed origin. When pelletized, this seed numbered approximately 43,000 per pound of gross weight.

The pelletizing matrix included a self-binding material together with a germination stimulant and a fungus inhibitor which theoretically would increase germination by preventing loss of seedings through fungal attack. It was noted following the seeding operation that the pelletized material deteriorated rapidly after wetting by snow and rain, thus releasing the seed for germination.

In order to approximate customary range seeding methods, the pelletized seed was sown at the rate of 6 pounds of natural seed per acre. On the basis of a relatively high seed count per pound, a resulting distribution of 35 pelleted seed per square foot of ground surface was obtained. This rate of seeding may appear high in comparison with the usual success rating of one grass plant per square foot, yet this rate of seeding has been found necessary under average conditions in order to obtain satisfactory stands of grass.

The actual seeding operations at Shoshone were started on November 3, 1954, and in three days 1,330 acres of the Summit Burn were seeded. A check on the rate of seeding was made after the first few plane flights over the area. Square-foot counting frames were used to count the seed on the ground and on blanket traps spread out to catch the falling pellets. Only minor adjustments were required in the seeding equipment on the plane to obtain the desired rate of 35 pellets per square feet. As shown in the accompanying photograph, a Stearman biplane was used to sow the seed from the air.

The Spencer area, 720 acres, was seeded in 1 day, on November 9, 1954. This would have required 6 days with ground equipment. In order to provide for accurate methods of evaluating the results of these two trial areas, small study plots were established at both locations. Two check plots were established on the Summit Burn north of Shoshone on representative soil types. These plots were 300 feet in width and 540 feet in length, and were enclosed within stout fences. Each plot was divided lengthwise into 100-foot strips each of burned surface, plowed sagebrush, and undisturbed brush. In turn, each 100-foot strip was divided into random portions, varying in width from 40 to 80 feet for the purpose of comparing aerial broadcasting of pellet and natural seed with seed drilled by conventional or ground methods.

These study plots were laid out by A. C. Hull of the Agricultural Research Service, who will maintain a detailed set of records from year to year until the final results are apparent. Accurate maps and a full set of descriptive notes were prepared for Mr. Hull in order that followup obser-

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SEEDING DENSITY. Blanket traps like this check pellet pattern to insure adequate seeding density for remaining runs.

FROM THE FIELD NOTES OF U. S. DEPUTY SURVEYORS

THE DISCOVERY OF RAINBOW NAT

by WILLIAM B. DOUGLASS, U. S. *Examiner of Surveys*, April 28, 1910

(*This is the first of a new series of articles, taken from the original field notes of General Land Office surveys, to be published from time to time in* Our Public Lands.)

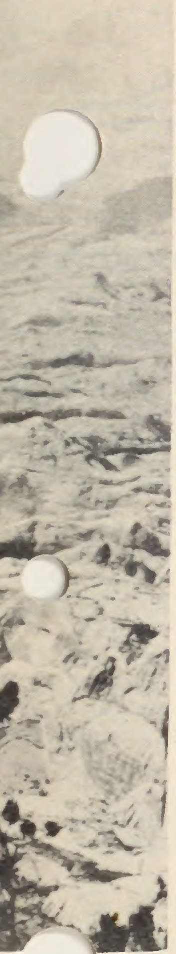
IN the fall of 1908 while on my way to survey the White Canyon Natural Bridges in SE. Utah, I was informed by Mr. John Wetherell of large prehistoric ruins in the Navajo Indian Reservation in Arizona, near a spring known as Bubbling Spring. This was duly reported to the General Land Office under date of September 11, 1908, with a recommendation that they be investigated with a view to their preservation.

I had in my employ as an axeman, a Paiute Indian, then known as "Mike's Boy," but who has since taken the name of Jim, from whom I learned of a great bridge of rainbow shape located near the Navajo Mountain.

This was reported to the General Land Office on October 7, 1908, and on October 20, instructions were received from the Commissioner to investigate the reported bridge and segregate it if found to be worthy.

An attempt was made to reach the bridge in December 1908, but owing to the snow, it was found impossible to do so.

At Oljato, Utah, more definite information wa



PANORAMA. Barohoini (Rainbow) Natural Bridge and surrounding country, described by the author as "a sea of billowy sandstone cut by canyons a thousand feet in depth," is barely visible in the white rectangle, upper right center of this breathtaking photograph. It was taken by the author in 1908 from a triangulation point on the top of Navajo Mountain, almost due south of the bridge. The insert, lower left, is a closeup of Rainbow Bridge, also made by the author nearly 46 years ago. The canyon in which the bridge is situated is called by the Navajo Indians "Sebigehotsow," meaning "Rock With a Hole in It." Rainbow Natural Bridge is situated in southern Utah near the Arizona border, not far from the Colorado River.

URAL BRIDGE

obtained as to prehistoric ruins in the area but nothing satisfactory could be learned of the bridge.

The Navajo Indians were said to know of a bridge located in Arizona on the Navajo Creek, but none on the north side of the Navajo Mountain, and the opinion was expressed that Jim's statement was untrue.

On March 3, 1909, I recommended withdrawal of a tract sufficiently large to embrace the ruins, but owing to lack of information as to the natural bridge, it was not included. The ruins were designated as National Monuments by Presidential roclamation dated March 20, 1909. On July 6, 09, I was again instructed to visit the reported bridge and ruins and to segregate all thought to be of sufficient interest to become national monuments.

THE DISCOVERY OF THE BRIDGE

I left Bluff, Utah, on August 9, 1909, on a hunt for the bridge with a party consisting of John R. English, head chainman; Jean F. Rogerson, 2d chainman; Daniel Perkins, flagman and packer; John Keenan, flagman, and Jim (Mike's Boy) as guide.

At Oljato, Utah, I met Professor Cummings of Salt Lake City, who with three students had been hunting relics in the interest of the University of Utah. He was preparing to start in search of the bridge, having learned of my proposed trip from Mr. Wetherell, whom he had employed as a guide. From this point we proceeded as one party all under the guidance of Jim. Later, we jointly employed an additional guide, a Paiute named Nasja Begay, supposed to have a better acquaintance with the local trails.

The route passed over a most interesting country but full of dangers and difficulties for the traveler, cut as it was with numerous box canyons, up the almost perpendicular side of which we clambered along crudely constructed Indian trails, passing over sloping sandstone ledges into which footholds

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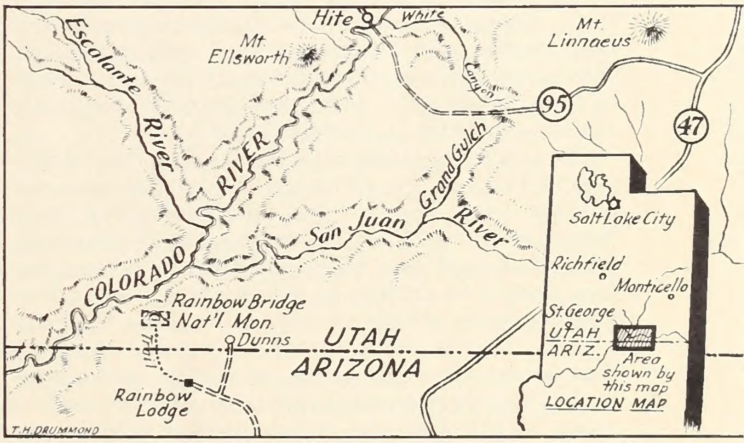


MAP. Rainbow Bridge National Monument area.

THE PARTY. The author, believed to be squatting third from right, and helpers.

active acres

NEW GRAZING FEE EXPLAINED

Here is Director Edward Woozley's simple and straightforward explanation of the necessity and fairness of BLM's range adjustment fee which went into effect on January 1, 1955—a 3-cent increase to 15 cents an animal month.

"The appropriation for range management has been almost static for the past 4 years. Various Congressional committees, the Bureau of the Budget, the General Accounting Office, and others have criticized us for not having a realistic approach on range fees. Accordingly, studies were made in 1951 and in 1952 on some 10 million acres of private and federal lands. These indicated that—based on a cost of production formula and net returns—the range users on public domain should pay a per-animal-unit-month fee equivalent to the average price per pound received for cattle and sheep at the 11 western markets.

"In discussing this with the National Advisory Board Council for Grazing, it was felt that the average price received for beef and sheep since inception of the Taylor Grazing Act 19 years ago should be used as a base, and that each year the base should be shifted by adding the current year and dropping the oldest year to level out the payments. But, it was apparent under this formula that about 10 years hence, when the prosperous cycle from 1947 to 1952 displaces less prosperous years in the formula, range users would be required to pay fees that might be excessively high.

"After reconsideration of the entire problem at a meeting with the advisory council held in Denver last fall, it was decided that the grazing fee should be stabilized by means of a factor tied to the average price paid for cattle and sheep at the 11 western markets for the immediately preceding year; but that no change would be made in fees for any given year unless the average livestock prices were to fluctuate either upward or downward at least 2 cents a pound.

"It will take about a year to put this program into effect so the grazing fee was set at 15 cents per animal unit month for the current year and for next year. After that, the new formula will prevail. This plan was subsequently endorsed by 9 of the 10 State grazing advisory boards as well as by the National Council. I am sure this approach is the fairest that could be worked out, all things considered."

Approximately 19,000 range users who graze 8.9 million head of livestock utilizing 15.6 million animal unit months of forage on 160 million acres of Federal range are affected by the change in fees. In addition, grazing lease rentals are being adjusted accordingly on approximately 22 million acres of public domain outside of grazing district

NEW BLM FEE SCHEDULE

A new schedule of service charges for certain land transactions, mineral leases, and permits which will save taxpayers an estimated $235,000 a year, has been proposed by the Bureau of Land Management.

The fees, ranging from $2 to $15, would be collected for processing 63 separate categories of time-consuming operations (heretofore handled without charge) and 11 other types of services which have been charged for at nominal rates.

Revenues from the more realistic pricing of the 74 kinds of services rendered applicants for various uses of public lands and resource development would approximate $235,000 yearly as compared with an average of $600 received in the past for those categories of service.

The proposed revision resulted from studies initiated by Director Woozley in October 1953 to determine equitable costs of licensing and to fix schedules, taking into account value of services rendered to the recipient, public interest served, and aggregate cost of services rendered.

Transactions included in the proposed new schedule are applications for public land exchanges, desert-land entries, rights-of-way, special land use permits, certain classes of mineral leas and permits, public auction sales, and record keep- involving various documents associated with ries such as assignments, proofs, leave of absence, extensions of time, and amendments.

The new fees will not become effective until ordered by Secretary Douglas McKay after considering comments received during the waiting period ending May 16, 1955.

NEW MAP OF ALASKA

A new base map of Alaska, published by the Geological Survey, is available in two editions, both at a scale of 1:2,500,000 or 40 miles to the inch.

The first is a conventional base map, designated as map E, showing towns, villages, lakes, streams and rivers, roads, railroads and political boundaries. The second is the base map overprinted with relief shading skillfully drawn from contour maps and aerial photographs.

Copies of these maps may be purchased by mail from the Distribution Sections of the Geological Survey, Washington 25, D. C.; Federal Center, Denver, Colo.; and Fairbanks, Alaska.

SMALL TRACT RULES MODIFIED

Now that the Departmental regulations which implement the Small Tract Act have been modified through changes which became effective on March 11, 1955, a review of the comparatively new small tract disposal program of the Bureau of Land Management seems in order, in view of the steadily increasing interest in this phase of land activities.

Under the Act of June 1, 1938 (52 Stat. 609), as amended by the Act of June 8, 1954 (68 Stat. 239; 43 U. S. C. 682a), small tracts of public land not exceeding 5 acres may be leased or sold for residential, recreational, business, or community purposes.

The law does not contemplate use of such tracts for farming, but no objections are made to gardens or the keeping of poultry, rabbits, bees, etc., where not prohibited by local ordinance.

Applications may be filed for any vacant, unreserved, and in some cases reserved, public lands.

Applications are subject to classification of the land by the Secretary of the Interior as to its suitability for small tract use.

Lands within National Parks, National Forests, or similar reservations are not subject to application under this act.

Any citizen of the United States, 21 years of age or over, may apply.

Veterans or the heads of families need not be 21 years old to be eligible, however. Husband and wife are limited to one application filed by the husband unless he is physically or mentally incapacitated.

Under the regulations governing lease and sale of small tracts, effective March 11, 1955, small tracts may be classified for "sale," "lease and sale," or for "lease only."

Lands may be classified for "sale" without preliminary leasing only in areas where local authority exists (such as zoning boards) to supervise and control construction, health and sanitation standards.

Lands classified for "lease and sale" will be leased for a 3-year period during which improvements acceptable to the State Supervisor of the Bureau of Land Management must be constructed before the land may be purchased at the appraised value.

Ordinarily, the lease will not be renewed except in unusual cases where extreme hardship would result through failure to renew the lease.

Lands classified for "lease only" may be leased for periods up to 20 years.

Improvements suitable for the contemplated use and acceptable to the State Supervisor, BLM, must be constructed by the lessee during the first 5 years of the lease.

When an application is filed for a small tract, a filing fee of $10 is required together with such advance rental as is provided in the classification order.

Filing fees will not be refunded except in case of a drawing.

The Government has no representatives in the field to assist in finding the tracts, and assumes no responsibility for construction of roads, location of property lines or the development of utilities.

Neither can the Government furnish detailed information concerning small tracts, such as character of the land, roads, accessibility, etc. In some States, however, some of this information may be obtained from the Land Office. The classification order will give general information only.

It is not possible to furnish diagrams or sections showing which tracts remain open through the filing of applications.

When interested parties can designate the section, township, and range they wish to investigate, the Land Office having jurisdiction over the area can then furnish information as to filing in that particular area.

Applications for small tracts are filed on Form 4-776. This form can be obtained from any Land Office of the Bureau of Land Management.

Inquiries concerning the availability of land for small tracts should be addressed to the Land Office in the State in which the applicant is interested, with certain exceptions. North and South Dakota applicants apply to the Billings, Montana Land Office; Nebraska and Kansas, to Cheyenne, Wyoming Land Office; Oklahoma and Texas, to the Santa Fe, New Mexico Land Office. Applicants in all states to the east of this row of States apply to the Eastern States Office, Bureau of Land Management, Interior Building, Washington 25, D. C.

End

MY IMPRESSIONS OF AMERICA

(Continued from page 5)

gress, the Bureau of Land Management has disposed or permitted use of public lands principally in the following manner:

Through Homestead settlement.
Through Desert Land entry.
Through public sale.
Through color of title.
Through Small Tract sale.
Through special land use permit.

Other types of disposal or withdrawal under the land laws of the United States are:

Railroad grants.
Grants to States for public purpose.
Exchanges.
Reservations for public purposes.

Reservations of public lands or their resources for administration by different agencies of the Federal Government.

The Bureau of Land Management has so far disposed of a billion acres of public domain in accordance with the land laws passed by Congress. About two-thirds of this area has been given away free to homesteaders and veterans, States and railroads, and others to encourage settlement and development. The other third has been sold for cash.

It is noteworthy that, for the area disposed of to settlers on Federal land and to others, 6,500,000 patents have been issued by the Bureau of Land Management, and copies of these patents are kept in 11,550 bound volumes.

The magnitude of Federal investment in land resources is great. Millions of dollars are allotted to the Forest Service for the management of the timber and forest products utilized by private enterprise, and to the Bureau of Reclamation in order to harness the water resources of the country for the irrigation of about 10 million acres of public land. The Bureau of Land Management has received so far an aggregate amount of $200 million in appropriations since its establishment. Through these three agencies the Government realized an income of 1.6 billion dollars against an appropriation of $5 billion.

A comparison of the foregoing figures with the financial record of earnings and expenditures by the Bureau of Land Management since 1946 is set forth in the following tabulation:

	Receipts	*Expenditures*
1945	$14, 147, 035. 24	$3, 636, 241
1946	13, 840, 333. 83	4, 124, 622
1947	21, 012, 154. 34	4, 398, 804
1948	33, 286, 434. 23	4, 540, 677
1949	37, 149, 433. 89	4, 917, 500
1950	36, 177, 349. 42	5, 939, 187
1951	49, 082, 331. 16	8, 226, 921
1952	64, 518, 396. 02	11, 873, 353
1953	66, 845, 762. 88	13, 825, 207
1954	77, 487, 465. 92	14, 558, 178
Total	413, 546, 696. 91	76, 040, 690

It will be noted that for this period, an aggr gate appropriation of $76,040,690 enabled Bureau of Land Management to return a gr income of $413,546,696 or a net "profit" of $337,506,007.

My tour of the field operations of the Bureau of Land Management in the United States brought me to miles and miles of arid and semiarid land where animal feed can hardly become green for lack of water or moisture. It must be recalled that out of the 180 million acres of public land that remain undisposed of and are still under management by the Bureau of Land Management, 160 million acres fall within the grazing districts that manage range land under the jurisdiction of this agency. How more than nine million head of livestock are sustained by depending on one-third of their annual requirements of forage from th resources of this arid land is a wonderful accomplishment. Yet this is a reality, for the Bureau of Land Management conducts a range improvement program, with the cooperation and for the benefit of stockmen, which includes weed control, construction of truck trails, corrals, fences, watering facilities, reseeding, and most important of all, moisture conservation.

I concluded my visit to the United States with a deep regret because I cannot bring home with me the men that helped their country rise to an eminence of power through the effective and wise management of their resources. But I am nevertheless consoled by the hope that, like the oth foreign observers who have come to this countr I could bring home with me some of the ideas, methods, and practices that have made the American Nation great. **End**

IDAHO'S ARID RANGE TESTS AERIAL SEEDING

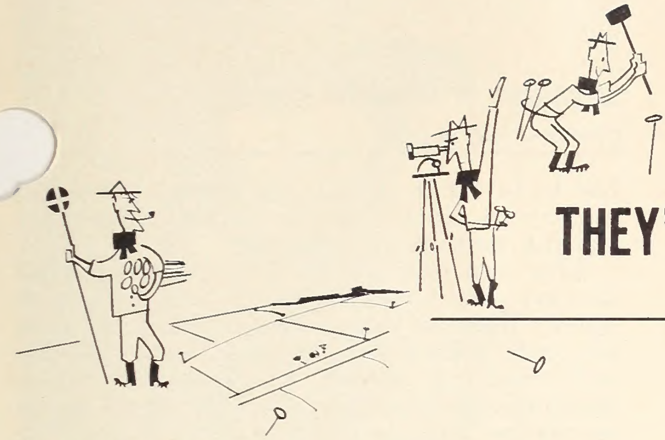
(Continued from page 7)

vations in subsequent years will have an accurate basis for comparison.

A single similar study plot was established at the Spencer site, excepting that additional areas were included to test broadcasting seed on snow.

The entire pellet seeding operation was carried out in a highly efficient and workmanlike manner and all who participated are looking forward to examining the results.

Aerial seeding trials using natural or "naked" seed were planned for Wyoming, New Mexico, Arizona, Nevada, Utah, Idaho, Oregon, and California. The major emphasis in these trials was placed in the Pacific Coast States where aerial seeding is a rather common practice. However, large trial areas were seeded in the more arid portions of Oregon and in Nevada and Utah in order to obtain a wide range of geographical locatio and environmental conditions.



Courtesy of *Steelways*, American Iron and Steel Institute

THEY'VE CORNERED THE COUNTRY

by **HARRY KURSH**

NEARLY two-thirds of all the land now owned by individuals, families and business organizations in America was once owned by Uncle Sam. Since colonial days, the government has granted or sold title to over one billion acres.

Realizing that every parcel of land should have a precise legal boundary, the Continental Congress called, in one of its first laws, for the division of federally owned land into a pattern of townships and sections. Each township was to be approximately 6 miles square, containing 36 sections of about 640 acres each—give or take a little depending on local geographical conditions.

The job of marking out the land has not yet been finished. Some 100,000,000 acres remain unsurveyed and these, being mostly in high mountainous gions, are the toughest. Scores of survey parties re still out in the field, leaving behind them their vital corner markers. Without these small monuments, there would be no record, no point of reference from which to go on.

Up until about 1910, the identifying corners were made of whatever materials could be found locally—mostly wood or stones. But the wood deteriorated and the stones would scatter. In the summer of 1863, an enterprising engineer named Edwin Richardson tried an especially ingenious remedy. He planted 1,448 trees near his markers in what is now the State of Washington, hoping that future surveyors would have the trees to go by if the markers disappeared. But if the trees prospered, there is no record of it.

Shortly after the turn of the century, government engineers consulted with the iron and steel industry. Was there a metal marker that would be economical, easy to install and long-lasting? The industry came up with wrought iron pipe heavily galvanized with zinc. Together with a brass cap inscribed with identifying data, the new markers ran 30 inches long, 2 inches across and were flanged at the bottom for good anchorage.

Countless thousands of them now dot the more than 7,000,000 corners so far marked. Engineers estimate their lifespan at 100 years at least. If there is any part of the marker that disappears in time, it is the brass cap—and even these live on—in the pockets of pea-brained souvenir hunters. **End**

As in the case of the pellet seeding trials, assurances were obtained from the Agricultural Research Service for assistance in evaluating the results. No intensive study plots were contemplated, however, as a means of comparing aerial seeding of natural seed with other range seeding methods. In the States mentioned above, a total of 49 aerial seeding projects is planned for completion during fiscal year 1955. These projects involve a total area of about 33,500 acres, of which about 15,000 acres will be located in the States of Oregon and California.

A related project entails the utilization of surplus grass and forage seed stocks held by the Commodity Stabilization Service. The Dworshak bill passed in 1954 provided for the transfer of 252,000 pounds of surplus seed to the Bureau for seeding federally owned rangeland. A substantial portion of the transferred seed was utilized in the conventional (natural seed) aerial seeding rials, principally in the form of mixtures of grass seeds, although some legumes were also used.

Moisture conditions were generally favorable on the areas seeded to date. In a number of instances the sites included accidental burns which had eliminated much of the competing vegetation. Numerous shifts were made in the program as individual project plans were firmed in order to take advantage of accidental burns occurring late in the field season. In all of the States, a conscientious effort was made to carry out the recommendation of the Congress and the instructions of the Department of the Interior in providing for careful trials of aerial range-seeding methods.

It is the Bureau's hope that the results achieved will justify the effort and funds expended. Aerial range seeding has a definite place in the Bureau's conservation program, particularly in inaccessible and rough country not suitable for ground seeding equipment. Improved aerial seeding methods will be one of the benefits gained from the 1955 trials. **End**

BLM GOES TO A CAMPOREE

(Continued from page 3)

sprouting brush, is an important range management practice for control of brush. The importance of grazing with the proper number of livestock, and at the proper time of year was also stressed by Mr. Burma.

Then the scouts were given an opportunity to participate in actual control of soil erosion and revegetation. With mattocks and shovels, they sloped the banks of a nearby gulley. These were seeded and covered with brush. Ryegrass seed was furnished by the SCS and rose clover by BLM.

A diversion ditch was dug with shovels to prevent further cutting on a side branch. The scouts were then reassembled on the slope and then shown some soil profiles, with Barney Griffin of SCS explaining how these are obtained and pointed out the different layers of soil. The final part of the program at Station No. 6 was a demonstration showing the difference in run-off from a plot of soil with a properly grazed perennial grass cover and a plot of soil with an overgrazed annual grass cover.

Saturday evening all of the groups held a get together on the slopes near Totem and showed some movies, sang songs and passed out neckerchief slides. It is recalled that three of the movies, "Guberif"—"Shovels, Pulaskis and Men"—and "Large Brush and Grass Fires"—were furnished by the Bureau of Land Management.

Following appropriate church services on Sunday morning our closing ceremony was held near the main flagpole at 1:30 p. m., at which time wall plaques were presented to each participating Troop.

During the closing exercises a man came rushing in to say that a small fire was burning up toward a wooded section below the entrance road to Tamarancho. We dispatched 10 explorers with 3 adults with shovels and mattocks to the fire area. Within a few minutes, they threw a small line hot-spotting the head of the fire, and otherwise assisted the local fire department in its control—a fitting conclusion to the camporee.

The event was completely and wholly successful due directly to the marvelous cooperation and actual physical labor from the National Audubon Society, the California Society of Fish and Game, the California Division of Forestry, the United States Bureau of Land Management, the United States Soil Conservation Service, the Marin County Fire Department, Crown-Zellerbach Corp. which furnished 1,500 trees, and the East Bay Municipal Utility District in Oakland which supplied 800 pine trees for planting.

Of the 40 troops in Marin, 32 participated with a total of 624 persons involved in the actual project work. This, of course, was not the end, but just the beginning—for now our real work in conservation gets under way. **End**

DISCOVERY OF RAINBOW BRIDGE

(Continued from page 9)

had to be cut to support the horses. At night, camps were made in canyon bottoms where water and fuel were always to be had.

After two days of travel it became apparent that my pack horses could not make the trip so heavily laden, as the country was becoming more and more difficult to traverse. A halt was made and everything possible was thrown off, taking barely enough provisions to last during the survey should the bridge be found worthy.

On the morning of the last day's travel, when we were told by the Indian guides that the bridge would be reached by noon, the excitement became intense. A spirit of rivalry developed between Professor Cummings and myself as to who should first reach the bridge. The first 3 places of the single file line were of necessity conceded to the 3 guides. For 3 hours we rode an uncertain race, taking risks of horsemanship neither would ordinarily think of doing, the lead varying as one or the other secured the advantage over the tortuous and difficult trail.

Fortune favored me at the close, the Professor being some hundred feet in the rear when I reached the bridge. After him was an old gray pack horse who, assisted by Jean Rogerson, seemed anxious to be the first pack to arrive. The bridge was reached on Saturday morning August 14, 1909 at 11 o'clock. To Jim is due the credit of givi to the world the first knowledge of this remarka monument; to the General Land Office belongs the credit for the discovery to civilization, and for its preservation as a National Monument.

MEASUREMENT OF THE BRIDGE

Mr. Wetherell had succeeded in scaling the south walls of the cliff and returned with the information that the top of the bridge could be reached by means of a long rope. I dispatched my two chainmen and flagman with the necessary ropes. They lowered themselves over a 50-foot ledge to a point on the south arch of the bridge where sufficient footing was afforded to enable them to clamber to the top.

Two steel tapes having a combined length of 333 feet were lowered over the edge to the bed of the stream below. Later I was lowered to the bridge and made measurements as to width. We were the only ones to reach the top of the bridge . . .

It required more time to make the segregation survey than was anticipated. Our supply of food was exhausted. At the close of the last day of laborious cliff climbing, we ate our last food which consisted of one biscuit and a spoonful of boiled beans per man. For the next days we had nothing whatever, but we succeeded in finishing the survey and reaching the supplies we had left on the wa

JIM. The Paiute Indian credited with bringing to the world the first knowledge of Rainbow Natural Bridge.

DESCRIPTION OF THE BRIDGE

Not only is this bridge the greatest known as to ize, but it is more delicately proportioned than y of its rivals. A graceful, rainbow-like arch f buff sandstone, with a span 278 feet, towers 309 feet above the bed of the small stream that winds its way through the rugged gorge below. The width is but 33 feet and the thickness of the arch only 42 feet.

Like the White Canyon Bridges, it was formerly a tongue of sandstone projecting from the south wall of the canyon, around the end of which the water surged, until long-continued wear undermined the rock. The stress of gravitation caused it to break the arch formed and weathering rounded it to the graceful rainbow outline.

Since the formation of the bridge, the water has cut a gulch 80 feet in depth through which runs a stream of clear water coming down from the Navajo Mountain. Almost under the arch, on the north side of the gulch is a pile of rocks which formed the wall of some small prehistoric structure in front of which slabs of sandstone set on edge outline an oval 3 x 5 feet—an altar, perhaps erected by the cliffdweller who no doubt viewed the great bridge with superstitious awe.

The bridge is located in an uninhabited part of the Navajo Indian Reservation given over to the use of the Paiute Indians. Four miles to the southeast towers the Navajo Mountain. As viewed from this mountain the whole country around the bridge seems a sea of billowy sandstone cut by canyons a thousand feet in depth. What previous knowledge the Indians had of this bridge is uncertain. The Navajos called the canyon "Sebigehotsow" meaning "rock with a hole in it." Their name for the bridge is "Nonnezoshe," but it is applied only to the artificial structure. (Editor's Note: Apparently the author refers to an existing "man-made" bridge.)

NAVAJO SUPERSTITION

On my second visit to the bridge, I had with me a Navajo known as White Horse who after passing under the arch would not retrace his steps but invariably, at considerable personal inconvenience, would clamber around its north end. On being pressed for an explanation of his peculiar conduct he would only shake his head mysteriously and point to the sun.

Later, Mrs. John Wetherell, an accomplished Navajo scholar, obtained from an old Navajo the information that the arch represented the rainbow or sun path, and that he who passed under the arch could not retrace his steps without uttering a certain prayer under penalty of death. White Horse's trouble was he did not know the prayer, and was taking no chances.

Nothing could induce the old Indian to repeat the prayer for fear the "lightning snake" would bite him. This superstition and the shape of the bridge suggests as a name "The Rainbow," or "Barohoini," the Paiute equivalent.

The exact location of the bridge is N. 60°25'13" W., 7 miles, 65.87 chs. from cor. 179 of the Utah and Arizona boundary line: latitude 37°03'21" 63 N. longitude, 110° 56'48"83" W. of Greenwich.

For comparison the sizes of five large natural bridges are tabulated below, the measurements being my own with the exception of the Virginia Bridge, which is taken from an article by Dr. Walcott of the Smithsonian Institute.

Name	*Height feet*	*Span feet*	*Width feet*	*Thickness feet*
Barohoini (Rainbow) Bridge	309	278	33	42
Sipapu (Augusta) Bridge	220	[1] 268	31	53
Kochina (Caroline) Bridge	210	[2] 277	44	50
Owachomo (Little) Bridge	106	180	28	9
Virginia Bridge	200	45	----	-----

[1] Arch skewed-span with axis is 283 feet.
[2] Mean span 275'; greatest span 350'; least span 202'.

The country in the immediate vicinity of the bridge is not suited to sustaining human life. While there is plenty of good water, there is no game and very little soil.

It will never be inhabited unless oil or other valuable minerals are found. **End**

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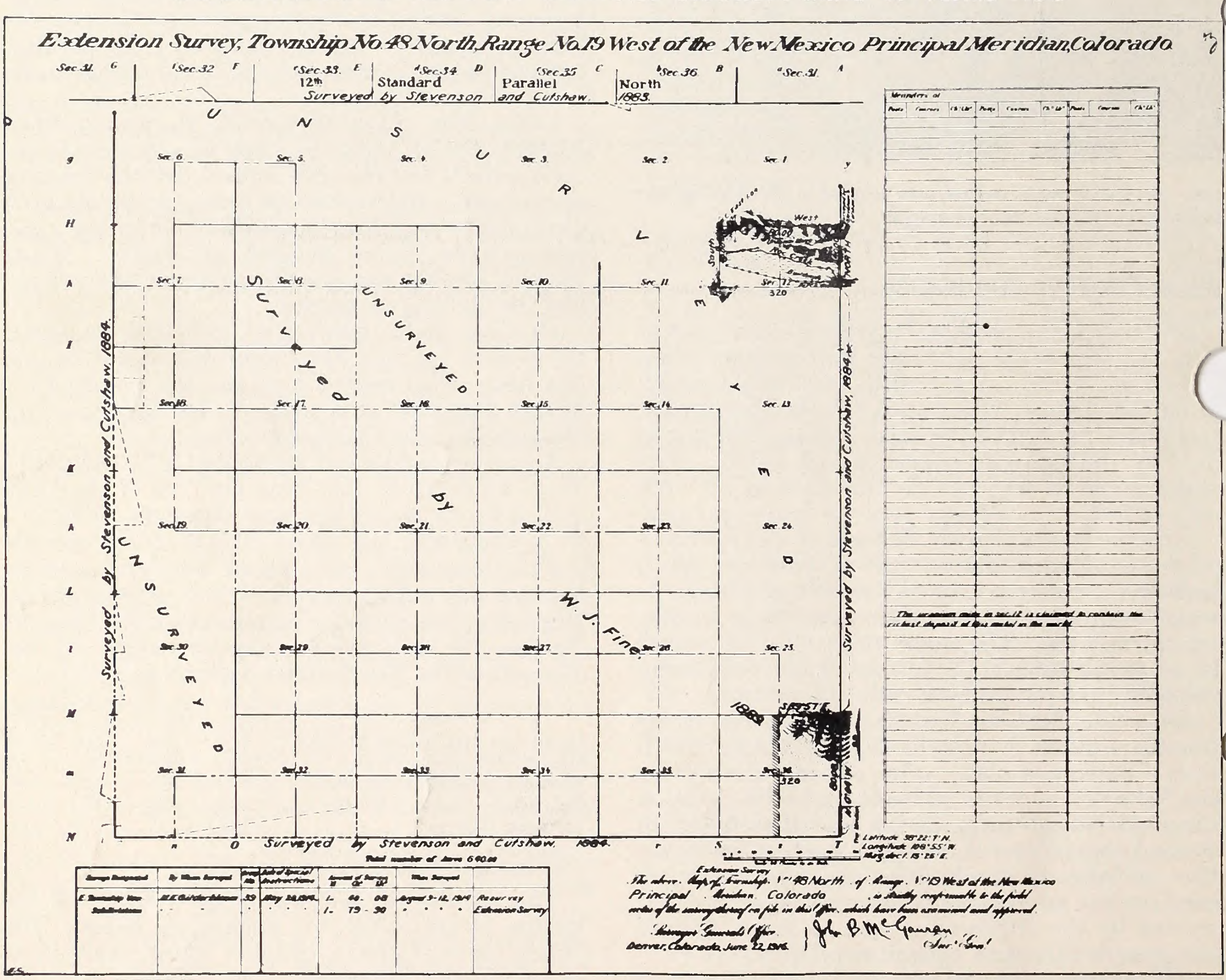
GENERAL LAND OFFICE PLAT IDENTIFIES URANIUM MINE 40 YEARS AGO


Extension Survey, Township No. 48 North, Range No. 19 West of the New Mexico Principal Meridian, Colorado.
12th Standard Parallel North
Surveyed by Stevenson and Cutshaw. 1883.
UNSURVEYED
Surveyed by W. J. Fine. 1883
Surveyed by Stevenson and Cutshaw. 1884.
Sec. 1
Sec. 2
Sec. 3
Sec. 4
Sec. 5
Sec. 6
Sec. 7
Sec. 8
Sec. 9
Sec. 10
Sec. 11
Sec. 12
Sec. 13
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Sec. 27
Sec. 28
Sec. 29
Sec. 30
Sec. 31
Sec. 32
Sec. 33
Sec. 34
Sec. 35
Sec. 36
320
West
South
Total number of Acres 690.00
Latitude 38°22:7' N.
Longitude 108°55' W.
Mag. decl. 15°25' E.
The uranium mine in sec. 12 is claimed to contain the richest deposit of this metal in the world.
Resurvey
Extension Survey
Colorado
Denver, Colorado, June 22, 1916.
John B. McGauran

HOW NEW IS URANIUM? Not so new, according to this almost-prophetic plat of a 40-year-old extension survey made by United States Deputy Surveyor M. E. Gilderbloom in Southwestern Colorado in August 1914. Conforming to field notes on file in BLM's Denver Land Office, the plat shows topographic drawings of the North half of Section 12 and the East half of Section 36, Township 48 N. Range 19 W. of the New Mexico Principal Meridian, Colorado. In addition to noting the location of a "Uranium Mine" in the sketch of section 12, Mr. Gilderbloom appended the cryptic note: "The uranium mine in section 12 is claimed to contain the richest deposit of this metal in the world."